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Investigations of Infectious Abortion

By E. S. GOOD, Head, Division Animal Husbandry, Kentucky Agricultural Experiment Station, Lexington, Kentucky

No doubt the intelligent development of agriculture in its highest sense includes the breeding and feeding of live stock and that the greatest drawback in the raising of live stock is the different contagious diseases to which our domestic animals are subject. The farmer who has spent years of thought and labor, as well as a great deal of money, in building up his pure bred and grade herds or studs, to see them either depreciated in value or totally destroyed by some contagious disease, is an only too familiar figure, and one which arouses our sincerest sympathy.

The State that is alert to its greatest development will see to it that the farmer is given the greatest aid possible in checking diseases among its domestic animals in the way of conducting investigations as to the cause and cure for different contagious diseases among her animals. Then, too, the veterinarian should be as thoroughly trained for his work as is the physician, for it takes a man as well educated along medical lines to treat the animal as it does to treat human beings.

Infectious abortion is a disease which has been noted among live stock in European countries for centuries. It is a disease that causes the American farmer millions of dollars of loss annually. One noted authority living in a State where dairying is carried on to a large extent says that this disease causes a loss of ten million dollars annually among the dairy cows of his state. I was told by one of our most prominent

breeders of thoroughbred horses in Kentucky that the disease has caused the breeders of horses in this State losses aggregating hundreds of thousands of dollars. The disease, however, is not nearly as prevalent among mares as was formerly the case. We find abortion of the infectious type affecting herds of cows in different parts of the State. To lose a foal from a high priced mare and stallion is significant. The loss of the calf of an aborting cow is usually a small item compared to the loss of the milk flow, as it is well known that a cow which aborts does not produce nearly as much milk as she does in a year in which she delivers a normal calf. Then, too, a cow that aborts conceives with difficulty and at times not at all.

Considerable work has been done of late years by investigators in different parts of the world interested in veterinary problems as to the cause of this disease among live stock. The disease could be produced by injecting bits of uterine exudate from aborting animals intravaginally in pregnant females of the same species, but investigators could not agree on the organism producing the disease. The results of a few of the prominent investigators were as follows:

In 1886 Nocard of France found a short bacillus and a micrococcus as being the most often associated with the fetal membranes of aborting cows.

Ostertag of Germany has been one of the most prominent investigators of this disease among mares. He found a short streptococcus as most often associated with the fetal membranes of aborting mares.

Law and Moore of Cornell, and Chester of Delaware found the colon bacillus associated with the fetal membranes of aborting cows.

In 1896, Bang and Stribolt of the Royal Veterinary College of Copenhagen, Denmark, announced that they had discovered a germ associated with infectious abortion in cows that was able to produce the disease when inoculated intravaginally, or intravenously in pregnant cows. The bacillus was described as a very small organism that resembled cocci under the low power of the microscope but under a high power they found that they were thick bacilli containing one, two and three granules. After repeated efforts these gentlemen were able to cultivate this organism in serum-gelatin-agar, the germ developing in a particular zone of the medium beginning about 5 mm. beneath the surface of the medium and extending downward 10 to 15 mm.

The writer began his bacteriological investigations at the Kentucky Experiment Station, as to the cause of this disease in cows and mares in 1907, but for the first three years was unsuccessful in determining the cause of the disease in either the cow or mare. There are a great many difficulties involved in such an investigation for the afterbirth of an aborting animal soon becomes contaminated with many species of bacteria. This is especially true during the warm summer months. To isolate the different species of bacteria found on such occasions that one might think would have something to do with the disease is an

endless task; it would be useless and burdensome to review such work here.

In January, 1911, the writer succeeded in isolating the germ discovered by Bang and Stribolt of Denmark, in 1896. This was done by incubating streaks of the afterbirth of an aborting cow on serum-agar in a partial vacuum at 37° C. for six days. While this technic is successful at times, we found it not to be as practical as the method discovered recently by Nowak of Austria, which consists in streaking bits of the uterine exudate on consecutive plates of serum-agar as is done in making streak dilutions and incubating the same at 37° C. in the air for twenty-four hours to allow germs of contamination to develop. If this is successfully done there will be some clear places on the plate. These clear places are marked with a wax pencil or India ink. The plates are again incubated for three days in a sealed jar with the Bacillus subtilis allowing one square centimeter of surface culture of subtilis to each 15 Cc. capacity of the jar. Under such conditions sufficient oxygen is absorbed by Bacillus subtilis to allow the bacillus causing abortion in cows to grow, and colonies of this bacillus may appear in the clear places on the plates. The colonies of this bacillus (Abortus-bacillus, Bang) are transparent (like dew drops) to transmitted light and bluish in color to reflected light. This germ possesses characteristics peculiar to oxygen possessed by no other germ. It is neither aerobic nor anaerobic. This bacillus is a very small polymorphic organism, as some individuals take the stains at the ends, hence look like diplococci; others stain their entire length; some are wedge-shaped, while others take the stain in three places with intervening non-stained portions. We have been able to isolate this bacillus from the internal organs of fetuses of aborting cows. Guinea-pigs inoculated subcutaneously with a small amount of a pure culture of this organism usually abort in about ten days, after which time the germ can be found in large numbers, in the placenta and uterus, and at times in the liver and heart blood of the fetuses.

This bacillus has now been isolated from the uterine exudate of aborting cows by Bang and Stribolt of Denmark, Priez of Hungary, Nowak of Austria, Zwick of Holland, McFadyean and Stockman of Great Britain, MacNeal and Kerr of the Illinois Experiment Station, and by the writer at the Kentucky Experiment Station. We have in all isolated the bacillus in ten cases of infectious abortion in three different herds of aborting cows in Kentucky.

Taking into consideration that this germ has been found associated with infectious abortion in cows by investigators in the foreign countries mentioned and more recently in the United States, I believe we may safely say that it is the universal cause of contagious abortion in cows.

Investigation of Contagious Abortion In Mares.—We have on the whole done more work relative to the etiology of the disease under discussion in the cow than in the mare. During the past year, however,

we have investigated the cause of the malady in the mare to quite an extent. We find the pathological changes of the internal organs of fetuses of aborting mares much more marked than is the case of the internal organs of the fetuses of aborting cows. At times there are small ulcers about 1 mm. in diameter on the top of the auricles of the heart of a fetus of an aborting mare. The spleen is enlarged and thickly studded with petechia on its surface. The mesenteric lymphatic system is highly congested; the ovaries and uterus of a female fetus and testicles of a male fetus are usually much enlarged and hemorrhagic. From the results of our investigations we have not found the streptococcus described by Ostertag of Germany, but we have succeeded in isolating a short, thick bacillus, some individuals of which are so short as to resemble a coccus in the tissues. The germ enlarges somewhat in culture media. The colonies of this organism vary considerably. This bacillus is a facultative anaerobe and gram negative. When examined from the drop of condensation of a streak on an agar slant incubated eighteen hours, it is found to possess some motion. It does not liquefy gelatin. Produces abundant gas and acid reaction on litmus-glucose bouillon, but does not produce gas nor an acid reaction in litmus, lactose or saccharose bouillon or agar. Milk is not coagulated. The casein is precipitated. Does not produce indol in Dunham's solution. Taking into consideration the above morphological and cultural characteristics this bacillus was placed in sub-group 11, or intermediate group of the colon-typhoid group, to which sub-group belongs such pathogenic organisms as Bacillus enteritidis and Bacillus cholera suis.

We have been able to isolate this bacillus from the uterine exudate of aborting mares in three different studs as well as from the internal organs of fetuses from these mares.

Subcutaneous inoculations of this germ into pregnant guinea-pigs produces abortion, the incubation period varying from twenty-four hours to ten days. The germ in such cases is found at the seat of inoculation and in the uterus. Inoculation experiments with this germ into larger animals is in progress at the Station at this time. So far in my investigations I have not been able to find the germ causing the disease of infectious abortion in cows, in either the uterine exudate or in the internal organs of fetuses of aborting mares. From the results of our researches up to this time it seems quite probable that the bacillus causing the disease in the cow is distinct from the bacillus causing the disease in the mare. The acceptance of the Abortusbacillus, Bang, as the universal cause of infectious abortion in cows gives the investigator a foundation on which to work for the production of a prevention or cure of the disease, which, if discovered, will save this country millions of dollars annually.

The writer wishes to acknowledge assistance in this work from time to time from Professor T. R. Bryant, Dr. Robert Graham, and L. S. Corbett, of the Department of Animal Husbandry.

Pathogenesis of Parturient Paresis*

Translated by JULIUS A. JESSEN, Kansas City Veterinary College, 1912

In this disease, as perhaps in most others, it is impossible to lay down any reliable rules as to symptoms, whereby one may positively diagnose it. No matter whether the condition develops immediately after parturition or later, the symptoms are not always constant. The same is true as regards its pathogenesis, and up to this day the different authorities have various opinions as to the true cause, as well as to the manner in which recovery is brought about.

However, they all seem to agree that in this disease, we have to deal with an autointoxication which is produced by the resorption of large quantities of products of destructive metabolism, which in turn are formed as the result of newly formed mammary cells in colostrum at the moment lactation sets in.

The difference of opinion in regard to the real cause of a so clearly defined pathologic condition, has its ground in the fact that insufficient attention has been given to a very characteristic symptom which has up to this time been considered a secondary matter, but is really of the greatest importance. It is the contraction of the udder.

This diminution of the original size of the udder is quite characteristic of the disease. The original enlargement of the gland rapidly disappears; the quarters become flabby, almost bloodless; the skin pale and sometimes wrinkled—anemia is present. This condition, marking the first stage, lasts three to six hours.

Immediately following this stage the autointoxication sets in, which, above all, effects the nervous system. The anemia causes an incomplete and abnormal secretion of colostrum and milk, by which, favored by the incomplete constriction of the local blood-vessels, the appearance of endosmosis is explained, which leads to the resorption of these products. The effect of this resorption soon manifests itself in nervous disturbances, paralysis and cramps, which signify the second stage.

The normal colostrum is an excretion. Owing to the fact that in this disease the elimination of this excretion has undergone great changes, the toxic properties have markedly increased. Experiments show that intraperitoneal or hypodermic injections of from ten to twenty grams of colostrum from a cow affected with milk fever, into guinea-pigs, was soon followed by paralysis, and death in from seven to twelve days, while injection of colostrum from healthy cows has no harmful effects.

The question here arises: What is the cause of this rapid constriction of the udder and the consequent anemia of the organ? Shortly before giving birth, a strongly increased blood supply, and with it, the

*Hojois: Berliner Thierargtl Wochenschrift; No. 40, 1912.

enlargement of the udder, takes place in consequence of the rapid constriction of the uterus, which causes a repletion of the general circulation. The dilation of the blood-vessels of the udder is much greater, the easier the birth and delivery of the after-birth, and the greater the natural milk production of the cow. If the cow is milked immediately after birth, this also increases the repletion of the udder by the blood.

It now stands to reason, that the vasomotor center of the organism, weakened by parturition, is stimulated by this rapid change in the circulation, and by certain peripheral irritation, to cause a reaction, so that a sudden constriction of the blood-vessels takes place. This is followed by an immediate diminution of the arterial and an increase of the venous circulation. Because of this, the greater part of the blood which has just passed through the udder, flows toward the central portions, mainly to the brain and spinal cord. This explains the hyperemia of the brain observed upon post-mortem examination.

A second cause of this reflex constriction of the blood-vessels, is undoubtedly the influence of cold or cold draughts, which has often been observed. In the same way would be explained the constriction of the udder, when occurring just before birth, or during the suckling period, in which cases the influences of cold and cold draughts upon the udder no doubt play an important part. During the suckling period there is a natural increased blood supply to the udder, and the animals are very irritable.

The opinion described above as to the etiology of the disease is supported by its cure. The rational treatment is infusion of a normal salt solution into the four quarters, followed by a vigorous massage of the whole udder, or in the inflation by air or other gases until the udder has gained its original or even greater volume. Treated by the latter method the disease disappears in two hours, which can be due only to the checking of the autointoxication; treated by an injection of a saline solution, it may last for six hours.

Each of these methods have evidently a double purpose. On the one hand, they check the production of altered colostrum or milk in the udder, or entirely inhibit it and temporarily prevent absorption. The infusion of the salt solution would be quite useless were it not for the additional massage. It may be that the salt solution, through chemical action, influences the abnormal production of milk or colostrum, but it does in no way interfere with the toxin resorption. Neither can it produce the normal blood circulation in the udder. By the massage, the liquid in the acini becomes evenly distributed; anemia is replaced by hyperemia, by which change the original, normal, swollen condition becomes evident again. This displacement of the endosmotic process takes about six hours.

By inflating the udder with air, which method is by far the better, the secretion is depressed. This is no doubt brought about by the energetic pressure upon the epithelium. If the secretion is not completely

checked, its resorption is prevented by the pressure upon the lymph vessels and veins. The anemia is also materially overcome by the gas pressure. At first thought it would seem as though the pressure by repelling the arterial as well as the venous blood would increase the anemia. The pressure affects only the veins, because of their weaker walls, and soon the blood escapes into the superficial vessels, which manifests itself in the prominence of the same. In the arteries the opposite takes place. Due to their stronger walls the continuous addition of blood into the not collapsed, but open arteries, the former vasoconstriction is released. They become fully distended with arterial blood, and since the blood cannot excape through the veins, a new, strong installation of blood takes place, which unquestionably entirely and definitely depresses the endosmosis.

The condition that takes place in the udder after the inflation of air, serves as proof for this theory. The udder does not collapse like a balloon, but maintains almost the circumference thus artificially produced. Besides this, it does not feel withered, but warm, which signifies that there is a regulated circulation of blood established in it. In connection with the circulation, the normal secretion of colostrum and milk takes place.

Interesting Bulletins

Tuberculosis. A Plain Statement of Facts Regarding the Disease, prepared for farmers and others interested in live stock, Government Printing Bureau, Ottawa, Canada. This is a reprint of the report of the International Commission on the Control of Bovine Tuberculosis. The report of this Commission has now been printed by the United States and the Dominion government and hundreds of thousands of copies have been distributed. Probably every veterinarian secured this report when first issued by the Commission. If any failed to do so he should apply for this, or Farmers' Bulletin, No. 473, U. S. Dept. of Agriculture, Washington, D. C. This information is too important to be neglected by any veterinarian.

The **Chicago Veterinary College Quarterly Bulletin.** This little publication continues to improve in interest and value with each number. No. 1 of Volume 10 contains among other interesting matter the paper on "Practical Therapeutics," read by Dr. E. L. Quitman at the forty-eighth annual meeting of the A. V. M. A. in Toronto last summer. Also a vigorous editorial exposing the methods of correspondence schools of veterinary medicine, and an equally strong plea for publication, by the secretary of each state veterinary examining board, of the number of applicants who pass, and the number who fail to pass, each

state board examination, with the name of the college from which they graduated. It is argued that this could not but have a salutary effect upon the class of instruction given in the various colleges. A discussion of the need for legislation to improve the conditions surrounding army veterinarians and a mention of the importance of Prof. Pammel's investigation regarding poisonous plants are also given.

Scabies of Cattle. By Richard W. Hickman, V. M. D., U. S. Department of Agriculture, Farmer's Bulletin No. 152. This publication is of importance to veterinarians located in regions where this form of parasitism persists.

ACTIVELY immunizing goats against Malta fever, by H. Vincent and Collignon (Compt. Rend. Soc. Biol. [Paris], 1910, Vol. 69, No. 34, pp. 468–470).—Goats were immunized by injecting cultures of the Micrococcus melitensis which had been previously emulsified in physiological salt solution. The best results were obtained by a triple subcutaneous injection of the emulsion. (Malta fever has been recently found to be enzoötic in certain portions of Texas.)

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FOR SALE—**Surgical Diseases of the Dog,** by Cecil French, D. V. S., $3.00 each, postage prepaid. This is an excellent work on the subject; contains ninety-one illustrations and more than 400 pages. It formerly sold for $5.00. Address VETERINARY MEDICINE, 1920 Wilson Ave., Chicago, Ill.

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T. N. SPENCER, D. V. S.

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A Chance to Save—and Make

May 1st the subscription price of VETERINARY MEDICINE goes up to $2.00 per year. Last month mention was made of this, and of the increase in size and the improvement in quality that is to go with the new price, with no more than passing mention of the advantage of renewing while the price is still $1.00; yet since the foundation of this journal, more than six years ago, not as many five-year subscriptions had been received altogether up to that time, as have come to us during the past thirty days. This is a hopeful sign and we welcome these subscriptions and the expressions of confidence that come with them.

There is still a chance for you to get the journal at the lower price. Every renewal received this month will be entered at the rate of $1.00 per year, whether for one year or for ten. This opportunity is also open to new subscribers, but be sure your subscription is in the mails *before May 1st.*

We have not received any ten-year subscriptions yet, but we shall not be surprised if we do, and in case any come, we shall present the senders with copies of *SPRINGTIME SURGERY*.

Army Veterinary Legislation in the Balance

H. R. 16,843 being a "Bill to Consolidate the Veterinary Service, United States Army and to increase its efficiency" is at this writing still in the hands of the House Committee on Military Affairs with the chances for being favorably reported to the House none too good. Before this reaches our readers it may be up to the House for consideration or passed or killed or it may still be in the hands of the Committee. In the latter case or in case final action has not been taken on this bill, as it probably will not be, write your representatives again, urging them to support it. It matters not how often you have written them before and we hope every reader has written at least *one* letter urging the passage of this bill, write again, show them you are in earnest, such letters do much good.

The War Department of the United States is the *only* war department *of any civilized country* wherein veterinarians do not have official recognition as professional men. This unfortunate, this shameful, situation, in which veterinarians in the United States Army find themselves today, is a disgrace to the country, a slur upon an educated profession which includes thousands of graduates from veterinary colleges, the thoroughness of whose training is vouched for by the Agricultural Department of our national government. No other schools of any profession are required to submit to a like supervision or have a like endorsement or an equivalent standing, yet men of other professions are accepted on their worth and not subjected to like humiliation.

This bill is safeguarded in every possible way from the viewpoint of the government, it asks for much less than is really due the veterinarians in the army. The profession is united in calling upon Congress to mete, in some measure, justice to the army veterinarians and in some degree to repair its neglect of this useful branch of the army service—to give the army veterinarians that which their professional training and abilities utilized in the services of the Army demand.

While this bill will, to some extent, necessitate an increase in the appropriation for the maintenance of this branch of the service the increase in salaries is not large and will be more than equalled by the saving which the bill will effect in the purchase of drugs alone. The "economy argument" should not prevail against this measure.

This bill has been introduced in the senate by Senator Penrose of Pennsylvania and is there known as S. 5792. Not much opposition to it is expected in the Senate but it is well to write your senators anyhow, urging its support.

Enclosed find one dollar for the renewal of my subscription for AMERICAN JOURNAL OF VETERINARY MEDICINE. It pleases me greatly to be able to do this, as I have found your journal to be invaluable to the practising veterinarian.

Yours truly,

A. A. LEIBOLD, D. V. M.

Marysville, Ohio.

"Hutyra and Marek" Translated

Our attention has been called to the following statements in a contemporary publication by Dr. Wilfred Lellmann of New York.

"After a lapse of only a little more than two years a new edition of this classical work [Hutyra and Marek's Special Pathology and Therapeutics of Domestic Animals] of two volumes became a necessity. It speaks well for its popularity among German readers. Our English literature has no equal to this excellent work.

"The new edition was greatly improved and augmented. Quite a few instructive pictures, also a number of artistically produced colored plates were added. Special attention has been paid to the sero-diagnostic methods and the diseases caused by blood parasites, and also to preventive vaccinations.

"This classical work cannot be recommended too highly, and the wish for a translation into the English language in the near future certainly appears justifiable."

We hasten to acquaint the good Doctor and others interested with the fact that English literature not only has an "equal to this excellent work" but actually, *has the work itself*, though not quite ready for general distribution; and that his wish for its translation into English has been already accomplished by Drs. J. Mohler and A. Eichorn of the Bureau of Animal Industry, Dr. Paul Fisher of Ohio, Dr. C. H. Stange of Iowa, Drs. M. Herzog and H. J. Achard of Chicago, and Messrs. G. Mayall and A. Leslie Sheather of London. The work is now in the hands of the printer and soon to be issued from the publishing house of A. Eger, Chicago.

In addition to the excellent description Professor Lellmann has given of this exceedingly important contribution to the store of veterinary knowledge we may add that although it is only about two years since the second edition of Hutyra and Marek's "Special Pathology and Therapeutics of Domestic Animals" was published, a third edition has already appeared. This fact is noteworthy in itself; *in less than five years* this work reached three editions, a rare accomplishment for a scientific work even with the German writers. This fact alone is evidence sufficient of the general interest and recognition attained by these authors among the members of the veterinary and medical professions.

The arrangement of the text in the third edition remains the same as in the two previous editions. However, considerable elaboration has been undertaken, inasmuch as the work at the present time deals in the fullest extent with the results of all the recent investigations of the diseases of animals and comparative pathology. The scope of the study of immunity of infectious diseases is increased and thoroughly modernized in the new edition. The experiments directed towards the perfection of the protective immunization from a practical as well as a

scientific standpoint, are comprehensive and fully told in the work. The methods of serum diagnosis, especially with reference to tuberculosis, glanders, infectious abortion and hog cholera, have been given full consideration, together with other up-to-date information on these very important subjects.

The chapter on protozoan diseases has also been amplified by the extensive knowledge of these affections gained in recent times. The chapters on hemorrhagic septicemia of sheep, fowl diphtheria, chicken-pox, chronic bacterial enteritis; scorbutus, coccidiosis, infectious cerebro-spinal meningitis, leukemia of chickens, and cattle diseases caused by parasites, have been thoroughly revised. Likewise in other chapters elaborations and very careful revisions are manifested and the authors at the same time lay particular stress on the therapeutic consideration—a most important feature—of the different diseases.

The excellence of the illustrations in this work are beyond description, and in their faithfulness to detail and careful execution evidence thoroughness characteristically German. In this edition some of the old illustrations have been exchanged for more appropriate figures and forty-two new illustrations and nine additional magnificent colored plates are added. Many of the plates are four-color work and three full-page lithographs are given which have passed through the printing press nine times. All the new illustrations and plates are, without exception, original, and are worthy of their place among the other illustrations which have, with the additions, greatly increased the value of this splendid edition. The style of the book is indeed beautiful and satisfies the most exacting.

Hutyra and Marek in the third edition of their work have offered to the professional men, a work on the practice of veterinary medicine which is indispensable to those who desire a full knowledge of the diseases of the domestic animals or for those who desire a comprehensive guide on the subject. It is encyclopedic in nature and from it professional men, as well as investigators, may obtain a complete and exhaustive description of the subject.

Its practical usefulness is not left out of consideration, inasmuch as the therapeutic measures are treated in an up-to-date manner. It is indispensable as a textbook of the highest value; its arrangement of the subject, its plain descriptive style and language, affording to the student an excellent publication.

The authors should be congratulated and should receive the full appreciation of the veterinary profession, as with the publication of this work, they succeeded in giving the world a work which is of the greatest value to their profession.

Nothing need be said of the English translation, the personnel of the corps of translators is sufficient guarantee of its high quality. This work will undoubtedly be accepted at once as *the* standard work on veterinary practice—as indispensable to all who want the best.

A Comparison of Tuberculin Tests

A very interesting and instructive demonstration of the intradermal and ophthalmic tuberculin tests in cattle was conducted by the Bureau of Animal Industry under the supervision of Dr. J. R. Mohler, at the Stock Yards in Chicago recently. The demonstration was for the purpose of obtaining further evidence as to the reliability of these methods of tuberculin testing.

For this test, 172 cows were used. These cows had been purchased for canners. The previous history of the cows was not known, that is, it was not determined whether they had come from tubercular or non-tubercular herds.

One test only was given to each animal, a portion of them being given the intradermal test and the remainder the ophthalmic test. Some typical reactions were obtained in both groups. The entire lot was slaughtered after the tests had been completed to verify the findings by a careful postmortem examination. The results, although not entirely uniform, were gratifying.

Keep Your Eyes Open

Most veterinarians, particularly those engaged in country practice, use automobiles in making calls. During 1911, four, perhaps more, veterinarians were killed in automobile accidents, and at least two others were involved in damage suits, the result of automobile accidents.

The driver of a motor car needs exceptionally good eyesight, a cool head and steady nerve. He has a more difficult task than a locomotive engineer, whose right of way is seldom obstructed, and who has only to look ahead for signals, with never a thought to steering to right or to left. Locomotive engineers must pass an examination and have their eyes tested, yet no state has seen fit to require good eyesight in chauffeurs. This is one of the things that require legislation. A license to run an automobile should be denied anyone who has not good vision. Safety of the public demands this.

DIABETES in the bovine, by P. Bimbi (Mod. Zooiatro, Parte Scient., 1911, No. 4).—This disease, which is seldom observed in domesticated animals, was noted in a bovine. The animal had an emaciated appearance, was slow in its movements, ataxic, ate very little, and drank much water. The marked polyuria and cataracts of both eyes easily lead to the diagnosis of diabetes, which was later substantiated by finding small amounts of sugar in the urine.

The autopsy showed an atrophy of the pancreas. Otherwise the findings were normal.

Recent Publications

RESULTS OBTAINED IN THE ERADICATION OF TUBERCULOSIS from a herd by the Use of Tuberculosis Vaccine and The Bang System, by S. H. Gilliland, V. M. D., M. D. Published by the Laboratory of the Live Stock Sanitary Board of Pennsylvania.

This interesting pamphlet of twenty-two pages comprises a paper read before the Forty-eighth Annual Meeting of the American Veterinary Medical Association, Toronto, August, 1911.

It deals with an important problem in the eradication of tuberculosis in cattle and should be in the hands of every veterinarian.

Numerous paragraphs in this article detail valuable experience of the author in tuberculin testing. For example the following:

"The rise of temperature did not occur until the seventeenth hour, though the reaction in both cases was very distinct. There have been many cases come to my attention while state veterinarian of Pennsylvania and at other times when the veterinarian applying the tuberculin test felt that it was not necessary to take more than three temperature measurements following the injection of the tuberculin, and that these measurements need not be taken after the sixteenth hour. It seems to me that we have ample proof to show that this is a very erroneous way of applying a test as valuable as the tuberculin test, and in this manner many animals have escaped."

And again, in another connection the author says:

"This experience, taken in connection with a number of others that I have had leads me to believe that an animal that has *once reacted* to the tuberculin test in a positive manner must be considered a tubercular subject, *no matter what subsequent tests may reveal.* It may be, however, that some reactors will live for a number of years following the date of their initial reaction without showing any clinical symptoms of tuberculosis."

The following paragraph illustrates the manner in which many herds once freed from tuberculosis have been reinfected.

"I do not believe that it is possible to keep a herd entirely free from tuberculosis in which new animals are being constantly purchased and entered into the herd upon the tuberculin test at the time of purchase. After a herd has been freed of tuberculosis, the best way to keep from reinfecting it is to raise all animals needed for future milkers from the tuberculous-free cows on the farm."

A part of the conclusions of this article are as follows:

"In conclusion, it is my belief where a herd that contains valuable animals both for breeding and dairy purposes, and more than eight per-cent are tubercular, the disease can be most easily and economically eliminated by applying the tuberculin test every six months, combined with the use of tuberculosis vaccine and the Bang system, for reactors from which it is desired to save the offspring.

"The use of tuberculosis vaccine has not as yet reached a practical stage and must remain in the hands of laboratory workers until more knowledge is obtained upon anaphylaxis, duration of immunity and the tuberculin test upon vaccinated animals.

"To free a herd from tuberculosis it is necessary to have a quarantine barn for all newly purchased animals and to keep the same therein for a period of not less than three months before placing them with the main milking herd."

THE BACTERIUM OF CONTAGIOUS ABORTION OF CATTLE DEMONSTRATED TO OCCUR IN MILK. Bureau of Animal Industry—Circular 198. By A. D. Melvin, Chief of Bureau.

At the Toronto meeting of the American Veterinary Medical Association, August, 1911, Drs. E. C. Schroeder and W. E. Cotton of the Experiment Station of the B. A. I. presented a paper under title of "An Undescribed Pathogenic Bacterium in Milk."

Subsequent study of this organism has shown it to be the one that causes contagious abortion in cattle. The fact that this organism is found in over eleven percent of market milk, leaves no doubt that it is ominously serious in its significance for public health. The importance of this discovery may be judged from the following which is the closing paragraph of this circular.

"We do know that the organism causes abortion in cattle and some other animals, and that it causes progressive lesions of a serious character in some experiment animals; and although we do not know what effect it may have on human beings, we can not afford to assume that they are not affected by it. In this sense *the bacillus forms another link in the long chain of facts that point unmistakably to the proper pasteurization of all milk before it is used as food,* as a measure *essentially necessary* for the protection of public health.

HOG CHOLERA AND SWINE PRODUCTION. Circular No. 1 of the Live Stock Commission of New Jersey, by Prof. Fred'k C. Minkler, Sec'y and Executive Officer.

This is a pamphlet for lay readers. It deals briefly with swine production and at some length with the prevalence, nature, symptoms and management of hog cholera, together with the preparation and use of hog cholera serum and also gives directions for disinfection and other means for the control of hog cholera.

No publication is better than THE AMERICAN JOURNAL OF VETERINARY MEDICINE, and I would not be without it.

C. A. SCHULZ, D. V. S.

Ellsworth, Kans.

The World's Work In Veterinary Science

A Digest of all the Current Literature of Comparative Medicine

By DR. L. W. FETZER
Washington, D. C.

SOME further work in regard to foot-and-mouth disease, by J. Siegel (Berlin. Tierärztl. Wchnschr., 1912, Vol. 28, No. 2, pp. 27–29, figs. 3).—Four hearts taken from animals having foot-and-mouth disease on examination revealed the presence of the typical cytorryctes cocci in each instance. Lesions in the skin of these animals in every case contained the typical organisms. (See AMER. JOUR. VET. MED. 1912, p. 97).

TESTS in regard to the value of atoxyl for treating foot-and-mouth disease, by Leimer (München. Tierärztl. Wchnschr., 1911, p. 533).—Atoxyl was found to have some curative properties for animals who received a single dose of 1.5 to 2 Gm. Two or three grams may be given without danger, but the author prefers giving 1 to 1.5 Gm. doses subcutaneously or intravenously at intervals in sterilized and cooled distilled water. Cows treated with atoxyl yield calves immune to foot-and-mouth disease.

THE pathogenic action of the Bacillus abortus, by T. Smith and M. Fabyan (Centbl. Bakt. [etc.], 1. Abt., Orig., 1912, Vol. 61, No. 7, pp. 549–555).—The Bacillus abortus (Bang) when inoculated into guinea pigs was found to produce a generalized nonlethal vaccine disease, which had some resemblance to tuberculosis.

The authors believe that this organism is probably the only cause of infectious abortion in bovines, which is so prevalent in the United States. The B. abortus was also found in milk, and as a result the possible relation which this organism may have to public health (man) is pointed out.

IN REGARD to the bacterial content of milk which was taken under ordinary and aseptic conditions, by E. Seibold (Centbl. Bakt. [etc.] Orig., Vol. 55, No. 4).—The milk was drawn from the mammary gland in the following ways: (a) In the usual manner, without washing or

subsequent disinfection of the gland; (b) after washing off the gland with soap and water; (c) after cleansing off the gland with soap and water, followed by disinfection with 60 percent alcohol, and (d) with sterile milking tubes.

An appreciable decrease in the bacterial count was noted only in the cases where the udder was previously washed with soap and water followed by alcohol disinfection, and in some instances where the milk was drawn through milking tubes.

CHEMICAL study of beriberi disease, by Y. Feruuchi (Ztschr. Immunitätsf. u. Expt. Ther., II, Ref., Vol. 3, No. 11. p. 985).—The active, curative and prophylactic substances against beriberi in birds can be isolated from rice bran with warm absolute alcohol. Another method for producing these substances consists of extracting the rice bran with dilute acid, and filtering. The filtrate is then neutralized, the precipitate which is formed is filtered off, and the filtrate from this evaporated to dryness. The residue thus obtained is extracted with warm alcohol, which will contain the active substance. The extracted substance contains only a trace of phosphorus (about 1-1600 to 1-500 of the amount contained in rice bran).

This finding led the author to conclude that the phosphorus content of rice bran had no relation to the etiology of polyneuritis.

RAPID disinfection of the field of operation with thymol spirits, by König and Hoffmann (Zentbl. Chir., 1911, p. 827).—A five percent solution of thymol in ethyl alcohol is just as efficient as tincture of iodine for rendering a part antiseptic. It has, however, the advantage of not producing a browning of the skin, nor eczema, and it has the further advantage of not removing as much of the epidermis.

LOCAL anesthesia for domesticated animals, by J. Sakar (Osterr. Wchnschr., Tierheilk., 1911, No. 32, Tierärzt, 1911, Vol. 50, No. 23, p. 372).—The feasibility of using ethyl chlorid sprays for domesticated animals was demonstrated in the case of a horse having an expensive lacerated wound of the thigh. A fibroma on the back of a dog was also painlessly removed.

IN REGARD to the reaction of the urine of domesticated animals, by H. Müller (Inaug. Diss., Univ. Giessen, 1910).—The results of the investigations show that the urines from carnivorous animals receiving a a vegetable diet do not take on a constant alkilinity, nor do such animals when receiving a meat diet always yield an acid urine. According to this, the reaction of the urine does not depend exclusively upon the feed given.

It was further noted that the reaction of urines from herbivorous animals is more easily influenced by the diet than those from carnivorous

animals. In cystitis the urines of herbivorous animals are mostly alkaline, whereas in severe affections of the digestive tract, pharyngitis, pneumonia, and muscular rheumatism, it is usually acid.

TETANUS successfully treated with magnesium sulphate, by W. A. Dykins (Vet. Rec., 1911, Vol. 24, No. 1213, p. 218).—A heifer calf, which had previously received two pounds of epsom salt per mouth, was given subcutaneous injections of a saturated solution of this salt in each side of the neck. The amount injected was 20 Cc.

IN REGARD to the detection of tubercle bacilli in the circulating blood, by Mammen (Deut. Med. Wchnschr., 1911, p. 1410).—The author was able to detect tubercle bacilli in the circulating blood in twelve out of fifteen cases in man. These include slight cases. The antiformin-ligroin method was used for detecting the bacilli.

FEEDING and immunity in rinderpest and hemorrhagic septicemia, by F. S. H. Baldrey (Jour. Trop. Vet. Sci., 1911, Vol. 6, No. 2, pp. 158–168).—The virus of rinderpest, according to the author, is contained in the red corpuscles and is therefore not present in the plasma of the blood when hemolysis has not taken place. This confirms the findings of Theiler. With a clear serum the disease could not be produced.

In regard to hemorrhagic septicemia the author concluded as a result of his experiments that "bovines which ingest virulent hemorrhagic septicemia material in relatively small quantities 7.1 percent contract the disease; of the remaining 92.9 percent there are 84.7 percent immune to it. The probable method of contracting the disease by ingestion would appear to be when an injury to the mucous membrane of the mouth has occurred and then infection amounts practically to a subcutaneous inoculation. This result has an important bearing on natural immunity and may account for the numbers of animals which in the plains resist infection."

A CASE of alopecia symptomatica, a contribution to mercurial poisoning in horses, by Hohlwein (Ztschr. Veterinärk., 1911, Vol. 23, No. 8–9, pp. 423–426).—Six horses were anointed with five Grams of blue ointment for the purpose of driving off lice. In one of the cases a scaly eczema developed upon the entire body which went over to eczema impetiginosum, accompanied by a high grade pruritus. After fourteen days this animal was practically hairless. The hair coat was restored in about five weeks.

DEATHS from acorn poisoning (Vet. Rec., 1911, 24, No. 1217, p. 283).—At one farm five animals have succumbed, four at another, and three at a third, while several single cases are reported. The acorns are unusually plentiful this year in England, and grass is scarce. Only a few affected beasts recovered.

Pointed Opinions on Live Topics

BY READERS OF

Veterinary Medicine

It is in reports like those of this department that the current history of the progress of veterinary science is written. Are you leaving a record of your experience which will help others, as you have been aided by these and other clinical reports? If not, you are earnestly invited to contribute from your experience that this department may be of the greatest service to its readers. By so doing you will earn the thanks of the editor, the approval of the veterinary profession and the lasting gratitude of those who are aided by your suggestions.

Noteworthy Testicular Teratoma

At the recent session of the Ohio State Veterinary Association (held in Columbus, January, 16, 1912) Dr. W. H. Gribble, Washington Court House, Ohio, exhibited some rare and interesting specimens; among them were three testicles—all three removed from abdominal cyptorchids and containing teeth, or more truly speaking, tooth structure, more or less imperfectly developed.

Specimen 1. Was about two inches long on its longest axis, and about one and a quarter inches long on its shortest. It contained two very imperfectly developed almost shapeless teeth, the composition of which was mostly dentine, with very little enamel.

Specimen 2. Had been removed but a few days before from a black three-year-old. The doctor had made an unsuccessful attempt to castrate this horse in the spring of 1911. The horse became so very

A—Normal testicular tissue
B—Fairly perfect teeth
C—Irregular dentigerous mass
D—Coarse hair, matted

troublesome, that the owner would not wait a more opportune time and had the castration done in the middle of winter. This testicle was very difficult to locate, nearly an hour being required, yet the horse did well and was in the harness again in a few days.

This testicle was five inches long, three inches broad, and not three-quarters of an inch thick. It contained five or six dentigerous masses coated with enamel like normal teeth but shapeless, varying in mass from the size of a pea to that of a lima bean.

Specimen 3. Photograph of which is shown, contains two well marked teeth, nearly perfectly developed incisors, in fact one of them is so perfect that were it found separated from its surroundings it would require close examination to determine that it did not come from the mouth. This tooth is two and one-half inches long, and one inch broad at the base, gradually lessening to the apex. It is completely covered with enamel, a perfectly developed incisor, even to its rounded surface, curved face and ridges.

The shape of the testicle is an imperfect spheroid, nine and one-half inches in circumference; four and one-half inches in its longest diameter, and three and one-fourth inches at its shortest, being of fairly normal size, in fact rather large, though usually cryptorchid testicles are small; often not larger than a pigeon egg.

The epididymis (not shown in the cut) is a remarkable distance from the testicle—eleven or twelve inches, and although small, its convolutions can be readily seen. A separation of two or three inches from the testicle to epididymis is considered a long distance.

The colt from which this testicle was removed was a three-year-old, standard-bred animal and was not unusually troublesome for a ridgling.

LEST YOU FORGET

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Treatment for Atrophied Muscles

Replying to a recent request in VETERINARY MEDICINE for a hypodermic treatment for "sweeney," or atrophy of the muscles of the shoulder, I have had very good results with normal salt solution, one ounce injected daily into the atrophied muscle, followed by rubbing and pulling of the affected muscle.

I use a 10 Cc. hypodermic syringe and make from three to four injections at different points at one treatment. I have had three recover in from four to six or eight weeks with this treatment.

WALLACE A. HERRON, D. V. M.
Silver Creek, N. Y.

Infectious Abortion of Mares

The cause of infectious or contagious abortion in mares as far as I know have not been determined, although its course and contagion indicates an infection of bacterial origin, and, strangely enough, it seems to me that this organism is ingested with certain feeds, and must reach the blood through the alimentary tract. Especially is this apparently true in this district where it is very prevalent and highly contagious.

It has been my experience during the last three years in certain districts to give professional help and advice in regard to this, one of the most dreaded diseases with which breeders have to contend. I have noticed that contagious abortion is more prevalent in certain districts where they let their brood mares run to straw stacks and where they feed green oats and wheat sheaves. On the other hand I have seen outbreaks of this disease where the mares have never been fed on any sheaf grain, hay or straw, but were run in large pastures or on the range.

Outbreaks of infectious abortion are most common during February, March and April, but I have known affected mares to carry their foals to full time, and have great difficulty at the time of parturition to expel the fetus. The foal if alive seems dull, stupid, very weak and dies in a few hours, the mare in nearly every case retains the placenta, which is very hard to remove, and there is a very nasty vaginal discharge with a fetid odor.

After the placenta is removed the uterus is found to be congested, hot and tender; the uterine ligaments tense and swollen; flushing the uterus with a weak antiseptic solution of creolin or carbolic acid causes intense pain. The mare will at once throw herself at full length, strain and seem to be unable to expel injection. It has been my experience on returning next day to find the patient tucked up, very stiff, pulse hard and full, temperature 103.5 F., and on examination of uterus to find she had not expelled the injection given the day before. On dilating the os the mare will strain but seems unable to expel the contents of the uterus which is very fetid; this I remove with a sponge. I then sponge the uterus with clean solution of creolin or carbolic acid with one to two ounces of tincture of opium. Cases that I have treated this way have made good recoveries in from four to ten days. Cases where the placenta has been retained and removed without washing out the uterus have died in a few days from septic infection, or if they recover they will be thin and weak for months, though running at large on good pasture and being given grain in addition.

Mares, infected with contagious abortion that carry their foals to full time, have a very scanty flow of milk and would be unable to nourish their foals if they did live. The milk is thin and watery looking and in some cases stringy and of a peculiar odor.

Mares which abort early, from infectious abortion, say in February, have very little trouble or

inconvenience. The fetus in every case that I have ever examined and that constitutes quite a large number seems to be emphysemic and depigmented. Such fetuses often contain deposits like lumps of clotted blood, dark, greyish-brown in color of a semi-solid consistency and one-fourth to one-half inch in diameter.

Mares that carry their foals to within thirty to twenty days of the normal time of parturition are the ones that cause the most trouble; although the presentation is normal these mares are unable to expel the fetus and will often wander around for some days eating and drinking and seemingly in no pain, but they eventually die from septic infection. I have been called to assist in quite a number of these cases and have had great difficulty in removing the fetus, owing to its distention with gas. These fetuses are ballooned until they are perfectly round and nearly filled with a very offensive fluid.

A postmortem examination of the full-time foals reveals the following condition:

Umbilical cord very thick and edematus; abdominal cavity contains a dirty offensive greyish fluid; liver yellowish brown, very soft and flabby; spleen very much swollen and emphysemic, yellowish grey; thoracic cavity contains a dirty greyish red fluid, between the pericardium and the heart there is a thick gelatinous, tarry fluid, but when exposed to air and light it shows a greyish tinge; heart enlarged, easily torn and very dark, and on section greyish black.

Treatment of this disease has been a failure with me. I have tried antiseptics, both internally and externally, feeding carbolic acid in feed and subcutaneously without success. The best treatment that I have tried has been to isolate the pregnant mares from the mares that have aborted. It is best to remove pregnant mares to some pasture entirely separated from the ones that they have been running on. I have always recommended a change of feed in cases where mares have been running at large, especially to straw stacks where they gorge themselves. This I consider one of the predisposing causes of this disease in this section of the province. Lots of this straw has become wet and musty and contains in some cases a large amount of mold or smut and it may be ergot. I have very rarely seen this disease where mares are fed hay and are kept on high and dry pastures with plenty of good spring water.

There was quite an outbreak of this disease the past year, twenty miles southwest of Calgary. One rancher lost ninety percent of his foals and others a less percentage. The land in this district is low in some places and swampy and in the spring and summer of 1910 it was very dry, and some of these swampy places dried up and the stock pastured in them; the feed was partly decomposed and sour and I think that this was the predisposing cause of abortion in this instance. I have been in this province breeding and treating stock continuously for a period of more than fifteen years but I have

never seen any cases of infectious abortion in this section until four years ago.

One of my clients a large rancher who lives in this district lets his mares range and has never had any of this trouble. It seems that brood mares that run at large on the level prairies are practically free from this disease, but where they run on low-lying land and feed on straw stacks they are more predisposed to this disease. If this is so then certain feeds must contain this bacterium. Two weeks ago I was called fifteen miles to an outbreak of this disease, these mares are fat and in fine condition, but have been running on stubble. This grain was not cut until after it was laid flat by a snowstorm last fall and there was a large amount of feed left on the ground, some very much discolored. I recommended thorough disinfection and removal of pregnant mares to different pastures and feed. The owner was in my office a few days ago and reports no more cases of abortion as yet.

I would like to learn if there is any other, or rather any successful treatment for this disease. Ranchers and farmers are getting worried and no wonder, when one considers the price of horses and what the losses from this dreaded disease mean to them each year. Other practitioners in different parts of Alberta are meeting the same conditions.

It seems to me that it would be a good thing for the farmers if the local government should conduct a scientific investigation of this disease and try to find the cause for it; if it continues to increase for a few more years as it has for the past four years the farmers will be unable to raise horses enough for their own use. Even at the present time horses are being shipped in from the east and from the States although Alberta is one of the best sections in the world, for horse raising. It is up to us as veterinarians to do all in our power to find if possible the cause of contagious abortion in mares and to publish our results whether successful or otherwise.

PERCY K. WALTERS, V. S.
Calgary, Alberta, Can.

Peculiar Cases of Dyspnea

I have several peculiar cases that may be of interest to the readers of your journal and their comments thereon may be of personal benefit to me.

CASE 1. An aged mule, in good condition, apparently well and hearty was attacked by a choking spell last fall while working to a rice mower. The dyspnea lasted for about fifteen minutes and did not subside until the animal fell to the ground exhausted, when he gradually recovered and in a few minutes was up and commenced eating as if nothing had happened. When put back to work the same symptoms recurred and it seemed any little excitement would bring on these spells. He would have an attack every time one attempted to explore the larynx by aid of a speculum. Trotting a short distance or light work would bring on one of these

attacks, while he would take an occasional spell, one in four or five days, when out in a pasture.

In consultation with a fellow veterinarian I proceeded to give the mule another choking spell by attempting to explore the larynx through a speculum. This spell lasted a considerable time, and as we thought the animal was going to suffocate, we performed tracheotomy, which relieved him immediately. We then had an opportunity to examine the larynx without any discomfort to the animal. It was found in a relaxed condition. We decided to call it paralysis of the muscles of the larynx and recommended blistering and nerve tonics. Our prognosis was grave.

The owner however did not want to go to any further expense and trouble and let the mule go home with the trachea tube inserted. He removed it the following day and turned the mule out in the rice field to die or do as he might. I have seen the man every week or two since and inquired about my patient. He informs me, every time, that the animal has not had another attack to his knowledge, but that he might be having them every day as he is quite a distance from the house.

Recently the mule has been working in a plow every day, apparently recovered.

CASE 2. Some two months after seeing case one, I was called to an identical case and again found it necessary to perform tracheotomy to save the mule. I then blistered the regions of the larynx and gave tonics. However, the animal continued to have an attack every time he was worked and was laid off for two months, during which time he had no attacks of the dyspnea. When put to work again the same trouble recurred and on examining the larynx I found it hard and dense instead of relaxed as in the preceding case. I then prescribed a severe and repeated blistering and gave electuary of the following: Fluid extract of belladonna, one ounce; potassium chlorate, two ounces; oil of tar, one ounce; and powdered licorice root, six ounces and molasses to make electuary of which one ounce was given twice daily. In three days he was taken out for a test and has been working every day since without any further attacks.

I have two more similar cases and it seems as though this may be contagious. The farmers tell me that this is a new disease among stock in this county.

In all the cases, both nostrils were clear. I passed a stomach tube through each nostril into the pharynx to demonstrate this.

Has anyone had similar cases and better success in treating?

M. E. MAIER, D. V. S.

Orange, Tex.

A Discussion of the Intradermal Tuberculin Test

The following is a partial report of the discussion of Dr. D. F. Luckey's paper on the intradermal tuberculin test (published in the March number of VETERINARY MEDICINE page 81) read at the clinic of the Missouri Valley Veterinary Association, Feb. 1, 1912.

Dr. L. D. Brown exhibited the needle, used for giving the intradermal tuberculin test. It should be caliber No. 20 and have a shank three-sixteenth to one-fourth inches long. Dr. Brown then demonstrated his technic for the injection, which in his hands appeared very simple. He claims that all cases, old and chronic, as well as acute, react to the intradermal test where the tuberculin is properly administered.

He then demonstrated a reaction in a hog that had been fed tuberculous matter at intervals for a period of two months, and also in a cow that had reacted to the thermal test three months previously. These animals had each received an intradermal injection of tuberculin forty-eight hours before the clinic and both showed typical reactions.

It takes a little training to differentiate between a suspected and a positive reaction, but there is no need for making a mistake after having had a little experience.

Dr. Brown was asked the following questions:

Dr. J. I. Gibson: Do you disinfect the seat of operation?

Answer: No, in more than 8000 injections we have had no serious infection.

Dr. R. C. Moore: How do you confine the animal while making the injection?

Answer: Little control is needed, a nose clamp is used when any restraint is required. Of course, there is a possibility of carrying infection from diseased to healthy cows, but we have so far ignored this possible untoward result.

Dr. A. T. Kinsley: When is the reaction evident?

Answer: At the end of forty-eight hours, but the animal may be examined as late as seventy-two hours after the injection. The enlargement is first apparent in three to twelve hours.

Dr. J. I. Gibson: Can the mallein test be made by an intradermal test in a manner similar to the way you have described the tuberculin test?

Answer: Probably, yes.

Member: Is this intradermal test accepted for interstate shipment?

Answer: Not legally, but it usually goes, or has done so up to the present time with us.

Dr. H. M. Reynolds: Does the thermal tuberculin test prevent a reaction from the intradermal test when given at the same time?

Answer: Probably, yes. It certainly prevents a reaction if given a few days prior to the intradermal test.

Dr. A. T. Kinsley: Does the intradermal test prevent a reaction to the thermal?

Answer: No, but it prevents the full elevation of the temperature if given shortly before the thermal test. I allow one degree for the interference of the intradermal test.

Dr. M. H. Reynolds: How soon after the thermal test may the intradermal test be applied.

Answer: It is best to wait at least sixty days.

Dr. Ll. Champlain: Will an increase in the amount of tuberculin given after an intradermal test bring a full reaction?

Answer: No. Under these circumstances it is necessary to increase the amount of the subcutaneous injection to get any reaction, but even with 4 Cc. it is always a low reaction.

Dr. G. Ed. Leech: I hope to be relieved from the inconvenience of the thermal test, but I do not feel safe in condemning an animal until the thermal test has been made. The great objection to the intradermal test is the difficulty in deciding upon the suspects. A physical examination such as they have in New York is very acceptable, but the law prevents me from giving a guarantee from such an examination.

Reply: As I said before there is not the slightest difficulty in deciding upon a reaction after one has had a little experience. The character of the swelling after infection is not to be confused by an experienced person with the reaction to the test.

Dr. T. A. Shipley: (Inspector-in-charge, Federal Meat Inspection South St. Joseph, Missouri.) I give only my personal opinion. This is not official. We recently held autopsies on 147 head that had reacted to the intradermal test. One hundred eleven, or 75 percent were passed for food; 12 passed for tallow and 24 were condemned.

Autopsies were held on another lot of 17 animals, condemned by the intradermal test and tuberculous lesions found in all of them.

In the first case (147 head) no positive lesions were found in four head, although an abnormality was found in two cases. Two showed no macroscopic lesions. But it must be remembered that the brain and intestinal mucosa are not examined, nor are the deeper lymph glands, or the bone marrow, or the skin. About this same percentage would have been negative in animals condemned by the thermal test.

Referring to what has been said I wish to give it as my opinion that a physical examination for the diagnosis of tuberculosis is unreliable. No man can examine "canners" and diagnose positively whether or not the animal is tuberculous and no man will think he can do this if he will spend even a day on the killing floor of some of the large packing plants when this class of cattle is being killed.

Dr. J. H. Slater: I have been much pleased with Dr. Shipley's discussion; it is a little bit off the subject but it is a regrettable fact that the public has a misconception of our meat inspection. In my locality the public thinks the federal meat inspection a farce.

Dr. S. Stewart: I am very much surprised and grieved to hear Dr. Slater say that. I know of no one more to blame for the misconception the public entertains concerning our meat inspection than the good doctor himself. He has practised for many years in Richmond, and I fear he has been very remiss in his duties as a public educator and benefactor to have allowed this misconception to exist and mayhap to increase all these years. I hope he will take immediate steps to better educate his clientele with regard to the federal meat inspection.

The autopsy on these reacting animals (cow and hog) will be reported by the secretary later and we will now proceed with the surgical clinic for which many are very anxious.

Foot Lameness: Its Prevention and Relief

Below the carpus is to be found the seat of 95 percent of the front-leg lameness in horses and of this 93 percent is in the foot.

Among city horses the first and most important cause of lameness is corns, and corns once present can never be eliminated entirely; if the cause of the corn recurs the corn will soon reappear.

A corn is the result of pressure on the sensitive laminæ, sufficient to bruise it. Corns are most prevalent on low, weak heels; good strong, high and upright feet are seldom affected. The nearer the shape of a horse's foot at the heels approaches that of a mule's foot, the less trouble he has from corns. I have yet to see my first mule with a corn and I treat hundreds of them each year.

The second feature of importance in the lameness is flat or convex feet, the most troublesome of all as it is invariably accompanied by brittle and weak walls and it is impossible to grow a good high heel on account of the almost horizontal texture of the wall at the quarter.

Third of importance as a cause of foot-lameness are quarter cracks, due to thin, brittle walls, inferior texture, improper relation of the foot to limb, base wide inside, base narrow outside.

A fourth important factor in the production of lameness is side-bones, due largely to hereditary predispositions, less important sprains and bruises, base wide inside, basé narrow outside.

A fifth factor of importance is navicular arthritis, incurable except of very recent onset.

For the relief of corns (I do not say cure, as I think that impossible), remove the shoe, pare down the weak quarter, bar and all, until it gets thin enough to yield under pressure. This will meet with some criticism as I know some veterinarians that would not cut the bar of a foot for the price of the horse, but experience is the best teacher and perhaps the ones that condemn paring the bar do so not from experience but from theory. With both bars cut out and kept out (I mean, try to keep the quarter and bar cut down as closely as possible—mark you, not the wall, but the portion between the wall and frog—and in so doing preserve all the wall possible) and with the shoe applied, I am going to demonstrate, the feet will expand. So much for that. If the shoe will expand the feet, and the sole of the foot is removed at the quarter and bars, the pressure will be removed and thus give relief. So much for that.

To apply the bar shoes, first level up the foot preserving as much of the wall at the quarter as possible, then make a shoe with a bar that extends almost to the point of the frog. Make it with the bearing surface of the bar and rim of the shoe level. About one-

third the way anterior from the point of the heel, or where the quarter and the wall unite cut a notch in the bottom of the wall and rasp away enough of the wall posterior so that the wall won't touch the shoe when applied. See that there is lots of pressure on the frog. Put three nails in the weak side leaving the rear one out and he is ready to go for a month. If both quarters have corns, prepare both the same as described and put all the pressure of the heels on the frog. These shoes can be made plain or calked low for summer or roughed for winter. I use leather under them in winter to prevent balling. Put the heel-calks on parallel with the foot, never at right angles.

For flat or convex feet make a bar as described. Bevel out inside web of the shoe and make it extend as far as possible so it will act as a protection to the weak sole, and above all, never let the shoe touch the sole. Make the bearing of the wall level and apply it so that at least one half of the weight of the quarters is on the frog. Remove every three, four or five weeks as the case demands. The proof of this is I have dozens of horses that work every day with this shoe and appliance and go sound. They have been wearing them from two to seven years and couldn't go two days on an open shoe without going dead lame.

Quarter crack: Prepare the shoe in the same way and apply it the same only at the bottom of the crack or where it would reach the shoe if it extended that far, make a depression in the wall (bearing surface) one-fourth inch deep and one to two inches long letting the wall rest on the shoe at the heel.

Side bones: Apply shoe as described and remove the pressure the same as for corns. In most cases a side bone is accompanied by a corn.

Navicular arthritis is the only lameness in the anterior foot that a bar won't benefit. The application of a bar shoe makes this sort of lameness worse (a good diagnostic agent).

This is a lengthier article than I intended writing and I didn't take up the pathology of these conditions as you are all familiar with that. If the directions given are adhered to closely it will relieve many an ache and pain and prove absolutely practical, if not theoretical.

C. A. MATHEW, V. S.
Cumberland, Md.

Iodine for Recurrent Ophthalmia

Recurrent, or periodic ophthalmia has so long been regarded as a practically incurable malady that to suggest it being amenable to treatment in as great a percentage of cases as many of the other common diseases of the horse has been to invite ridicule and harsh criticism.

The symptoms of periodic ophthalmia are well known and therefore I will not discuss that phase of the subject. The cause is still unknown, but, of all the different theories advanced, that some specific microorganism is the causative factor appeals most favorably to me; and using this as a basis I

formulated the iodine treatment. The results of this treatment have been very satisfactory in my hands, and in the hands of others more able than myself. On the contrary some capable men have failed to see any good from employing it, and others have had rather indifferent success. The treatment is very easily applied, but at the same time has the advantage of being inadaptable to the layman's use, since it necessitates the introduction of a hypodermic needle into the orbital fat—this the laymen, ordinarily, will not attempt.

I use a long slender hypodermic needle, and an ordinary hypodermic syringe (or a glass serum container used for injection of antitoxins), and introduce by way of the temporal fossa. By pressing and releasing the eye with the thumb, at the same time allowing tips of first and second fingers to rest just above eye in lower part of temporal fossa the eye can readily be felt to go back against the ocular sheath, and one can tell with certainty where and how to direct the needle. In my own experience, and according to the reports of others no bad results have followed the introduction of Lugol's solution, full strength in this way. When I first began to treat periodic ophthalmia with iodine I diluted Lugol's solution with an equal volume of water, but have since abandoned it for the full-strength preparation. The resultant swelling is advantageous, and is much more marked from the use of full-strength Lugol's solution than from the diluted article. The treatment I have used most and recommend is the introduction of twenty-five to thirty minims of Lugol's solution into the periorbital fat.

Beside my own cases which have previously been reported in these pages, I have the following reports from other users.

Dr. H. L. Casey, Danville, Kentucky, treated fifteen cases with only two recurrences.

Doctor Kennedy, Bloomington, Wisconsin, four cases, favorable report.

Dr. Harvey J. Kannal, Rensselaer, Indiana, one case, favorable report.

Drs. Moyle and Sons, Waterford, Wisconsin, two cases, favorable report.

Dr. G. C. Reese, Edon, Ohio, several cases, favorable report.

Dr. A. D. Glover, Newark, Missouri, about twenty cases, about one-half favorable. He says: "The early ones responded, but the later ones did not and I am not ready, at this time, to either recommend, or condemn the treatment."

Many others have received specific instructions as to the treatment together with all the information I could give them from my own, and the experiences of others, and while several have reported their success or failure, as the case might be, far too many have been eager to get the information but have shown no disposition to share what they learned with the rest of us.

Treating recurrent ophthalmia with iodine is like treating any other disease—not all the cases

will recover, but I regard it as being as near a specific as anything else we have in veterinary therapeutics.

It is barely possible that some failures are due to mistakes in diagnosis. One man in California wrote me the treatment failed to do anything for a horse that had been blind for a year! Other failures might be traced to carelessness, for if they get well at one time they should at another, all things being equal of course. We are too often led to try some favorite measure when not clearly indicated because of its good action in cases somewhat resembling the one in hand. When the animal needs general tonics give them to him; if plethoric and depletion is indicated eliminants should be used—treat any condition that is coexistent as indicated and results, I think, will be more gratifying than they will be where systemic treatment is neglected.

As to the time for the administration of the iodine, any time (if you are certain of your diagnosis) is all right. If administered during severe attack of the inflammation, rest the eye with atropine, and keep the animal in a dark stall. If possible do not work the animal during treatment, and above all things *do the work yourself*, so you may see and know for yourself what is happening, and keep a record of such happenings. Some cases require more than one injection. I have had to give as many as four injections before a cure was obtained. Of the ten cases treated by me nine recovered.

I would like for all interested in this treatment to write to the gentlemen whose names I have given and get their views on the subject, and I ask that you give it not one, but several trials, keeping a record of your observations, which please forward to Doctor Campbell, that they may be published. In this way the actual worth of the use of iodine in the treatment of recurrent ophthalmia may be learned.

EARNEST M. WIGGS.

Wichita Falls, Tex.

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[When I saw Doctor Wiggs he had more than fifty letters of inquiry prompted by his report in VETERINARY MEDICINE some months ago. It was notable that but very few of these inquirers enclosed a stamp for a reply although all asked questions of Doctor Wiggs and although he wrote each a personal letter, replying in detail to the questions asked, and requested a report of the results of the iodine treatment for periodic ophthalmia, if tried, less than one-fifth of the doctors written to ever reported to him or even thanked him for his trouble. It is well to write to those reporting cases in VETERINARY MEDICINE particularly if you have had experience that contradicts or corroborates the conclusions arrived at in the published report but always when a reply is desired enclose a stamped envelope. Write the editor, too, when anything is published with which you do not agree or when you can cite cases to substantiate theories that have been advanced in these pages.—EDITOR.]

Aphthous Stomatitis in Tennessee

Aphthous Stomatitis, or "sore mouth and feet," of cattle, is causing much concern to the cattle raisers of the Southern states in general, and of Tennessee in particular. Its ravages have been particularly prevalent and widespread during the past season. The direct losses on account of loss of milk and flesh have amounted to thousands of dollars.

From the number of telephone and telegraph messages and letters received, I would judge that the anxiety occasioned wherever this disease has appeared has been great. Most stockmen and some few veterinarians were under the impression that an outbreak of the well-known "European foot and mouth disease" had again made its appearance in America.

The symptoms are similar in almost all material aspects to those of "European foot and mouth disease." Even an expert cannot distinguish between the two diseases by the symptoms presented or by physical examination. I diagnosed the disease by watching its development and spread in the individual dairy herds where it appeared. I observed that the cases developed slowly, only a few cows in a herd becoming diseased. Hogs and sheep did not contract it, which convinced me that we had Aphthous Stomatitis, and not "European foot and mouth disease" to contend with.

The disease is not contagious. It does not spread from animal to animal by contact. The causative agent is a fungus or form of mould which grows—at certain seasons of the year and under certain atmospheric conditions—on grasses and forage crops.

The animals lose their appetite and lose in flesh. They "slobber" and champ their jaws. An examination of the mouth will reveal small sores on the mucous membrane of the cheeks and gums. Often the tongue becomes involved. Of course, as the disease advances the appetite is entirely lost on account of an inability to masticate and swallow the food. This results in great emaciation and stary coat. The feet become sore. with swelling around the coronets. When standing the animals arch their backs and assume the position of a "foundered horse" by tucking all the feet under the body. They lie down most of the time.

Feed "sloppy" or liquid food. Wash the mouth morning and night with permanganate potash, one part to 4,000 parts of water, after which put a leve tablespoonful of powdered alum wel back on the tongue.

Keep a bucketful of cold water, to which has been added 1 dram chlorate of potash to the gallon, within easy reach of the animals.

If the coronets become involved, it is advisable to stand the animal in cold water for two hours daily. After soaking apply ichthyol ointment and carbolic acid compound (P. D. & Co.) around top of hoofs.

A change of feed and pasture is always advisable. GEO. R. WHITE, V. M. D.
State Live Stock Inspector.
Nashville, Tenn.

Potassium Iodide for Canker

Those who attended the clinic of A. V. M. A. at Kansas City in 1907 doubtless remember a sorrel, standard-bred stallion (Colonel Clipp) that was suffering from a canker of the sole of the left front foot. This stallion was shipped from Richmond, Missouri, to be operated upon at the clinic.

HISTORY. This animal had been under my treatment for several weeks. After receiving one ounce of chloral hydrate in capsule the horse was cast for an operation. All the diseased tissue was removed and the foot was dressed with a 1-2000 solution of bichloride of mercury. The improvement was slight and in a short time a second operation was deemed advisable. The owner objected to having the horse thrown because he struggled so the previous time, consequently for the operation he was placed in a shoeing stanchion. After all the diseased tissue was removed a curette was used; then the foot was washed in a 1-2000 solution of bichloride and bandaged. The horse struggled continuously during the operation.

After a few days the same fetid discharge again appeared. At this time various caustics recommended in the text-books were applied unsuccessfully.

I decided to resort to a third operation. The horse was slightly injured during the last operation so that he showed lameness when trotting down hill. The owner was afraid to again cast the horse, and as the time of meeting of the A. V. M. A. was drawing near I made arrangements to ship the animal to Kansas City for the clinic. On the day of the clinic at the Kansas City Veterinary College the president of the association appointed a committee composed of three prominent surgeons to examine this horse and have a report ready when the proper time came. Their diagnosis was canker; prognosis unfavorable. Advised not to operate, but use in the stud service as he was. This did not suit me as I felt confident the horse would not have any foot at the end of another season if the canker progressed at the rate it had been going. Besides people do not want to breed to a horse with a diseased foot. He was hardly a profitable animal in that condition. Notwithstanding the advice of these eminent surgeons I was determined to try another operation while an operating table was available, but found difficulty in securing a man to operate against the advice of the committee. After much urging Dr. P. Simonson consented to perform the operation.

The horse had received one ounce of chloral hydrate in capsule about an hour previous to being placed upon the table. Dr. Simonson removed almost the entire insensitive sole, the insensitive frog and also the sensitive frog. After a thorough curetting the foot was washed and a 1-1000 bichloride pack and bandage applied the horse was placed in a box stall, and when the foot was redressed a bichloride pack and a tar bandage were applied. He was shipped home; and the bandage was left undisturbed about five days, when the presence of odor and secretions indicated that it was time to remove the tar bandage. I used a five gallon irrigating can with small hose to wash the foot every other day with five gallons of 1-2000 bichloride solution keeping a cotton pack saturated with the same solution tightly bandaged all the while. The foot healed nicely and with remarkable rapidity. When it was all healed except a place about the size of a half-dollar you can imagine my disappointment and chagrin when I discovered a canker in the other front foot. I took the bandage off and turned the horse into the stall and paddock with nothing to protect the feet, and told the owner I would try just once more. I prescribed:

Potassium iodide, 4 oz., aqua 2 pints. Mix and give one ounce once daily for eight days, discontinue eight days then resume as before. The horse was given the medicine and not much notice taken of the feet. In about a month the owner informed me he thought the feet were improved. Examination revealed no discharge, and the feet much improved.

Result: Two sound feet except the left foot has no frog, the sensitive frog after having been removed never formed again. The horse was sold after his feet became sound.

I was called to treat him for colic a short time ago. I paid particular attention to his feet and they are good although badly neglected as the owner has them shod only two or three times a year—leaves the shoes on until they drop off, and often drives horse over rocky roads thirty or forty miles a day whether he happens to be shod or not. I should like very much for others to try potassium iodide in the treatment of canker and report the results.

J. HARVEY SLATER, D. V. S.
Richmond, Mo.

Georgia Veterinary Meeting

Following the examination given to the applicants for license by the state board of veterinary surgeons, the State Association of Veterinaries in convention here elected officers for the ensuing year. They are:

T. E. Jargo, of Athens, president; C. R. Jolly, of Atlanta, vice president; Peter F. Bahnsen, of Atlanta, secretary. The committees named were: Executive committee, Charles A. Downey and W. M. Burson, with the officers of the association; publication committee, P. F. Bahnsen, W. A. Scott and Jesse T. Wright; committee on diseases, J. H. Oliphant, A. P. Edgerly and W. C. Carnes; committee on legislation, W. A. Morris, Percy Hudson and Otis Perrin; committee on finance, T. C. Schwenche, A. C. Stever and L. L. Cheney.

Eight applicants from different sections of the state took the examination given by the board at the state capitol. The examining board is composed of Peter F. Bahnsen, C. R. Jolly, W. A. Scott, J. H. Oliphant and T. C. Schwenche.—*Atlanta* (Ga.) *Georgian.*

Ornithodorus Infestation; Death

I would like to get some information on this case. I was called to see a horse that the owner said had blind staggers. As I had seventeen miles to go and the horse was in very bad condition I told my client over the phone to give a half pint of alcohol and one dram of quinine at once and nothing more till I could get there.

About nine o'clock the night before this horse had become frantic and walked the lot all night and would hold his head high and snort as if he saw some object and then he would rear up and paw the air. He kept that up till twelve o'clock next day (about the time I saw him), when he went into a comatose state and remained so until he died that night after twelve o'clock. He would go in a circle to the right all the time and keep his left ear dropped and had been somewhat foolish for a month; so, the owner told me, he could hardly bridle him at all and when he went to take the bridle off he would often pull loose and run off with the bridle.

Not being satisfied as to what killed him I thought I would see what I could find out. I skinned the back part of the head and on cutting off the left ear I discovered that it was full of ticks, or grubs as some call them, and found some of them had penetrated to the brain and that was what killed the horse. Will some one tell me what will kill the ticks and not hurt the horse? I shall appreciate an early reply. G. W. LAFORGE.

Burnet, Tex.

[Sweet oil will suffocate these ticks. It is unusual for the ear tick (Ornithodorus Megnini) to occasion a horse's death.—ED.]

A Successful Treatment for Heaves

I am sending you the history of a case of pulmonary emphysema which I hope may prove interesting to the readers of your journal.

In June, 1910, I was asked to send to the happy hunting grounds an old favorite Welsh pony who has been in his owner's possession twenty-nine years. I found the pony apparently *in extremis*, extremely emaciated, no appetite, pendulous abdomen, weak pulse, and heaving at a terrible rate. He had been "heavey" for some years, but had lately become a pitiable object. Being very anxious to try the effect of the French line of treatment I persuaded the owner to allow me to do so.

Treatment: Diet of oats and grass and lime water to drink.

Strychnine sulphate, digitalin, hyoscyamine, of each one-third grain, three times daily. Fowler's solution, one-half ounce twice daily. Improvement was well marked right from the start. The treatment was persisted in for six weeks. An occasional handful of sodium sulphate was given in the feed to keep the bowels well regulated. By fall the patient was back again into fine condition, well rounded out, glossy coat, and despite his age, full of vim and ginger.

He has been driven regularly ever since, the excessive heat of last summer not affecting him. I saw him only last week and he was in first rate shape with no sign of heaves. I know this sounds rather like a fairy story but it is the unvarnished history of *the worst case of heaves I ever saw or expect to see.* I have refrained reporting this case before as I was waiting to see if a relapse occurred but it hasn't and the old pony looks good for another ten years.

C. G. SAUNDERS, V. S.
Toronto, Ont.

Via Steno's Duct

This case may be of interest to some of your readers, at least it was to me and I cannot satisfy myself as to the source of entrance.

A bay gelding with a swelling of about the size of a goose egg, about four or five inches below right ear, behind the upper angle of inferior maxilla. I diagnosed the case as abscess of the parotid gland; opened and removed about two or three ounces of pus and on exploring with the finger felt something sharp, broke down more of the tissues and removed a timothy head two and a half inches long. I could not find any tract beyond end of straw. I examined mouth and could find no wound of any kind. The skin had not been wounded. It healed up without any further trouble and has shown no indication of a fistulous tract since. It puzzles me how the timothy head got there, and why did the wound heal so readily without leaving a fistula?

J. W. ROSSITER.
Fostoria, Ohio.

A New Salesman

The tenth Annual Salesman (new catalogue) of the Moore Bros. of Albany, N. Y., is now on the road and will call upon any veterinarian for a postal card direct to the house. He carries a full-line of veterinary instruments "at a little less than the market price". His assortment of instruments for cattle practice is unequaled. Better make his acquaintance.

Veterinary Departments in Farm Papers

I am one practitioner who believes that the veterinary profession as a whole is being imposed upon and that veterinarian's interests and business is being jeopardized by agricultural journals conducting veterinary departments in their columns.

Why not be consistent and carry a general medical and dental department as well? [Many household magazines do.—EDITOR.] Why specialize on veterinary science?

I can not see where the farmer's of breeder's interests are benefited by the veterinary column in farm papers since before the prescription could reach him through its publication in these mediums, his sick or injured animals would in most instances be well, dead or past medical aid. But for this department and its alluring free advice a veterinarian might be called in time and thus save the farmer the loss of much valuable stock. It would also increase the amount of veterinary practice.

I believe that I am voicing the sentiment and thoughts and opinions in this of many hundreds of veterinary *practitioners*, not the men with state jobs or other salaried positions who about ten times out of ten do the writing, throughout the country.

E. R. BUSH.

Cox's Mills, W. Va.

[There can be no question that a properly conducted veterinary section is a valuable component of any farm journal. Veterinary science is a branch of agriculture and as such should be represented in the agricultural press. It is equally true that the veterinary departments of farm journals should confine their instructions to problems in feeding, hygiene and farm and barnyard sanitation including quarantine and measures for the prevention of infectious diseases, and in some papers this plan is adhered to. Such instruction vastly improves the veterinary practice in communities possessing it. But information of this nature the average editor of farm papers does not want and will not publish. These editors want directions given for the diagnosis and treatment of disease —a list of symptoms, prescriptions and directions for surgical operations. The veterinary departments of most farm papers are valueless to the readers of the papers and in some instances actually harmful for the reason that the farmer may, because of the free advice he hopes to get, put off the employment of a veterinarian until the most opportune time for treatment is past.

The medical profession is much in advance of the veterinary profession in matters of this nature. It would constitute a serious

breech of ethics to write a medical department in a lay publication, that was analogous to the average veterinary department in farm journals and the writer would be ostracized professionally.—ED.]

Appreciation

How dear to our heart is the steady subscriber,
Who pays in advance at the birth of each year,
Who lays down the money and does it quite gladly,
And casts 'round the office a halo of cheer.

He never says: "Stop it; I cannot afford it,
I'm getting more journals than now I can read."
But always says: "Send it; we doctors all like it—
In fact we all think it a help and a need."

How welcome his check when it reaches our sanctum,
How it makes our pulse throb; how it makes our hearts dance.
We outwardly thank him; we inwardly bless him—
The steady subscriber who pays in advance.

Web Casting Harness

The Knowles Casting Harness, is most simple in construction. It weighs but three and one-half pounds, and will fold up small enough to be carried in the pocket. It is fully guaranteed to be stronger and more durable than any harness can be made of leather weighing less than fifteen pounds. It is attractive in appearance and pronounced by those who are using it to be the very best appliance of the kind ever offered to veterinarians. It is now in use and recommended by one-half of the veterinarians in the United States. Sharp & Smith of Chicago handle it.

Missouri Veterinary Medical Association

The Veterinary Medical Association of the great state of Missouri held a successful meeting in Columbia, November 27 and 28. We had an interesting program from start to finish. Fourteen new members were added to the association. Twenty-seven new members joined this association in July, 1910.

The next meeting will be held in Marshall sometime during July. Dr. Charles Doerrie of Boonville is president, Dr. S. Stewart of Kansas City secretary and Dr. O. Stuart of Paris, vice president.

You may expect to hear a good deal of this association in the future.

D. F. LUCKEY,
Retiring Secretary.

Bloomfield, Mo.

EDITOR, AMERICAN JOURNAL OF VETERINARY MEDICINE:

I have this morning received and read at a sitting the March number of your magazine and especially what you have to say on pages 91 and 92.

Accept my congratulations on the conditions that have reached such a stage as to compel the step that the best veterinary publica-

tion is about to take. Congratulations are due not only to the management of the journal but also to its thousands of readers.

While I felicitate you I desire to avail myself of your generous offer to extend the subscriptions of your readers and herewith enclose five dollars for extension of my own subscription for *five more years*.

Success to you in the new venture though I fear that your readers will be but too ready to benefit themselves by securing extensions. I cannot perceive how any veterinarian can get along without the JOURNAL.

GEO. T. BABB, D. V. S.

Topeka, Kans.

Wanted: An Insecticide Powder

My clients object to the use of liquid applications in cold weather. Will some one give me a prescription for a louse remedy, in powder form, that will rid horses of lice?

H. F. D.

—Illinois.

Arecoline and Atropine for Choke

One morning I was called about four o'clock to see a bay gelding suffering from choke. The owner thought he must have been choked all night as but little of his evening feed of hay, oats and corn had been eaten. It appeared he had been choked about nine hours.

Treatment: I administered two drams of fluid extract of belladonna in an ounce capsule, filling the remainder of the capsule with water, followed it by one-half grain of arecoline hypodermically, and ten minutes later an ounce capsule of linseed oil and in less than an hour the horse drank a small bucketful of water.

I have used this treatment for more than two years and in that time have not found a case that was not relieved in less than forty-five minutes.

The belladonna acts locally, causing the constricted esophageal walls to relax; the arecoline sets up the movements of deglutition; if this dose is insufficient give another half grain of arecoline and the oil lubricates the obstruction and facilitates its movement. Anyone following this treatment will never use any other.

W. A. PENROD.

Anna, O.

[Remarkably successful results in the treatment of choke has recently been reported from the hypodermic use of apomorphine hydrochloride in three-fifths to three-quarter grain doses. It takes about one hour to relieve a serious choke by this treatment—and the animal should have access to water constantly.—ED.]

Practice in Gynecology and Obstetrics

In gynecologic and obstetric practice Chinosol is invaluable. It possesses antiseptic properties at least equal to corrosive sublimate. Then, too, the sublimate coagulates and solidifies secretions and blood clots, such as are formed in the folds of the vagina, etc., whereas Chinosol readily dissolves them. It is the best antiseptic. Those suffering from idiosyncrasy which makes it unpleasant to use corrosive sublimate, carbolic acid or other agents used in disinfecting and sterilizing the hands, will

find Chinosol most desirable, the action in this case being rather antiseptic than germicidal. Chinosol does not irritate the epidermis and does not cause numbness nor tingling of the fingers. For irrigation of the vagina and uterus it may be used in solutions of 1:1000 to 1:2000. In no case have any unpleasant symptoms been observed, in no case has it caused any irritation of the mucous membranes. Dr. Klamann, *Allg. Med. Centr. Zig.*, says: "Because of its non-toxicity and its not unpleasant smell I prefer Chinosol to sublimate and carbolic in obstetrical work." Because of its styptic qualities, Chinosol is employed to advantage in the treatment of hemorrhage of the vagina and uterus. It is indicated in septic conditions of the uterus and vagina, in vaginal and cervical catarrh and in puerperal fever. For direct application (tampons, wounds, etc.) add to one part Chinosol five to ten parts boric acid. In periuterine exudates it has been used with best results as a douche. In cases of confinement, Chinosol is very valuable and very desirable. Not only because of its intense antiseptic properties, but because it absolutely does no injury to membranes and does not cause any odor in the sick room.—*International Journal of Surgery*, January, 1912.

Protects Health: Lengthens Life

Do you *sleep* when you go to bed or do you *worry* about having to jump out of a warm bed and drive perhaps miles exposed to a driving rain or chilling wind? Sleep is restful and refreshing but worry—you know the fearful effects.

The Fouts & Hunter Carriage Mfg. Co., 804 Third St., Terre Haute, Ind., make the Cozy Cab, the lightest, handsomest, most convenient storm-proof vehicle built. No loose curtains or attachments—in 30 seconds the Cozy Cab can be completely closed against rain, wind or cold.

With a Cozy Cab in your barn, your mind is free from worry about the unpleasantness of night calls. No matter what the weather may be, your Cozy Cab will keep you warm and dry—it *protects* your health and comfort.

These vehicles are sold direct from the factory to Veterinarians at factory prices, thus saving the purchaser from $25 to $40. Every Cozy Cab is shipped for a *30 day Free Trial*—send it back at the manufacturer's expense if it is not entirely satisfactory. Just now the manufacturers are making a Special Offer to readers of VETERINARY MEDICINE to buy on the installment plan and, on request, they will mail catalog and details. Drop them a card TODAY. Their advertisement appears in this issue on page XXIV.

The Publisher recommends Fouts & Hunter as they have an established reputation for fair dealing.

LAST CALL

If this paragraph is marked with a blue pencil:

IT MEANS that your subscription has expired.

IT MEANS that we should be pleased to have your prompt renewal, as we particularly want you to remain among the readers of "Veterinary Medicine."

IT MEANS that while we have in in your case departed from our rule and sent you a few copies beyond your subscription term, because we believed you wanted the journal, we can not send any more without your order. This April number will be the last, unless you renew at once.

IT MEANS that you will find enclosed a renewal blank, so as to make it easy for you to remit and hard to forget to do it. Next month a renewal will cost you $2.

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Sulfglycerole Ointment—for Scratches.
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Cured Four "Incurables".

I treated four injuries, three bone spavins and one bowed tendon with antiperiostin, using only one bottle on the whole number. As a result I have sent four sound horses to their owners, from the use of antiperiostin and every one of these cases had been pronounced incurable by another veterinarian. I shall continue to use this remedy as long as results continue as gratifying as the foregoing cases.

Enclose find check for five more bottles. I have several patients standing around on three legs waiting for it now.

HARRY H. GUY, V. S.

Delavan, Ill.

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